

CLAIMS

5 1. A wireless information device within a wireless information communication system for receiving and processing a message, the wireless information device comprising:

10 an antenna system having a plurality of antennas for receiving the message;

15 a radio frequency switch coupled to the antenna system for activating a first antenna of the plurality of antennas as an active antenna in response to an antenna control signal;

20 a transceiver coupled to the radio frequency switch for receiving the message from the antenna system through the radio frequency switch, and further for sending a signal to the antenna system in response to a command;

25 a controller coupled to the radio frequency switch and to the transceiver for processing the message and further for sending the antenna control signal to the radio frequency switch and further for sending the command to the transceiver;

30 a memory coupled to the controller for storing the message; and a display coupled to the controller for displaying the message in response to a display command from the controller, wherein the display includes a display orientation, and further wherein the antenna control signal is generated by the controller in response to the display orientation.

2. A wireless information device as recited in Claim 1, wherein the wireless information device further comprises:

35 a user interface coupled to the controller for sending a user interface signal to the controller, wherein the controller sends the display command to the display in response to receipt of the user interface signal.

40 3. A wireless information device as recited in Claim 1, wherein the wireless information device further comprises:

45 a user controlled display rotation switch coupled to the controller, wherein the controller sends a display orientation signal to the display in response to a

change in mode of the user controlled display rotation switch, and further wherein the display changes display orientation in response to receipt of the display orientation signal.

5 4. A wireless information device as recited in Claim 3 wherein the controller sends the antenna control signal to the radio frequency switch in response to a change in mode of the user controlled display rotation switch, and further wherein the radio frequency switch activates a second antenna of the plurality of antennas of the antenna system as the active antenna in response to receipt of 10 the antenna control signal.

5. A wireless information device as recited in Claim 1, wherein the wireless information device further comprises:

15 a plurality of hand sensors coupled to the controller, wherein the controller receives a signal from at least one of the plurality of hand sensors, and further wherein the controller sends the antenna control signal to the radio frequency switch in response to receiving the signal from at least one of the plurality of hand sensors, and further wherein the radio frequency switch activates a second antenna of the plurality of antennas of the antenna system as the active antenna 20 in response to receipt of the antenna control signal.

6. A wireless information device as recited in Claim 1, wherein the wireless information device further comprises:

25 an orientation sensor coupled to the controller for determining the display orientation, wherein the controller receives a signal from the orientation sensor, and further wherein the controller sends the antenna control signal to the radio frequency switch in response to receiving the signal from the orientation sensor, and further wherein the radio frequency switch activates a second antenna of the plurality of antennas of the antenna system as the active antenna in response to 30 receipt of the antenna control signal.

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7. A wireless information device within a wireless information communication system for receiving and processing a message, the wireless information device comprising:

5 an antenna system having a plurality of antennas for receiving the message;

10 a radio frequency switch coupled to the antenna system for activating a first antenna of the plurality of antennas as an active antenna in response to an antenna control signal;

15 a receiver coupled to the radio frequency switch for receiving the message from the antenna system through the radio frequency switch;

20 a controller coupled to the radio frequency switch and to the receiver for processing the message and further for sending the antenna control signal to the radio frequency switch;

25 a memory coupled to the controller for storing the message; and

30 a display coupled to the controller for displaying the message in response to a display command from the controller, wherein the display includes a display orientation, and further wherein the antenna control signal is generated by the controller in response to the display orientation.

35 8. A wireless information device as recited in Claim 7, wherein the wireless information device further comprises:

40 a user interface coupled to the controller for sending a user interface signal to the controller, wherein the controller sends the display command to the display in response to receipt of the user interface signal.

45 9. A wireless information device as recited in Claim 7, wherein the wireless information device further comprises:

50 a user controlled display rotation switch coupled to the controller, wherein the controller sends a display orientation signal to the display in response to a change in mode of the user controlled display rotation switch, and further wherein the display changes display orientation in response to receipt of the display orientation signal.

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

10. A wireless information device as recited in Claim 9 wherein the controller sends the antenna control signal to the radio frequency switch in response to a change in mode of the user controlled display rotation switch, and further

5 wherein the radio frequency switch activates a second antenna of the plurality of antennas of the antenna system as the active antenna in response to receipt of the antenna control signal.

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11. A wireless information device as recited in Claim 7, wherein the wireless information device further comprises:

10 a plurality of hand sensors coupled to the controller, wherein the controller receives a signal from at least one of the plurality of hand sensors, and further wherein the controller sends the antenna control signal to the radio frequency switch in response to receiving the signal from at least one of the plurality of hand sensors, and further wherein the radio frequency switch activates a second antenna of the plurality of antennas of the antenna system as the active antenna in response to receipt of the antenna control signal.

15 12. A wireless information device as recited in Claim 7, wherein the wireless information device further comprises:

20 an orientation sensor coupled to the controller for determining the display orientation, wherein the controller receives a signal from the orientation sensor, and further wherein the controller sends the antenna control signal to the radio frequency switch in response to receiving the signal from the orientation sensor, and further wherein the radio frequency switch activates a second antenna of the plurality of antennas of the antenna system as the active antenna in response to receipt of the antenna control signal.

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- ~~13. An antenna system for use within a wireless information device having a display and a controller, wherein the antenna system comprises a plurality of antennas substantially surrounding the circumference of the display, and further wherein one antenna of the plurality of antennas is activated in response to an antenna control signal from the controller.~~
- ~~14. The antenna system as recited in Claim 13, wherein the plurality of antennas comprises:
 - 10 a first antenna;
 - a second antenna;
 - a third antenna substantially parallel to the first antenna; and
 - a fourth antenna substantially parallel to the second antenna,
wherein the first antenna and the third antenna are substantially
 - 15 perpendicular to the second antenna and the fourth antenna.~~

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- 15. In a wireless information device having an antenna system and a controller for controlling the antenna system, wherein the antenna system comprises a plurality of antennas including an active antenna for receiving a message, a method for controlling the antenna system comprising:

- 5 determining the orientation of the display;
 - identifying a preferred active antenna based on the orientation of the display;
 - generating an antenna control signal;
- 10 sending the antenna control signal to a radio frequency switch; and activating the preferred active antenna.

15. The method for controlling the antenna system as recited in Claim 15, wherein the wireless information device further includes a user controlled display rotation switch, the method further comprising:

- detecting a change of mode of the user controlled display rotation switch before the generating step.

20. The method for controlling the antenna system as recited in Claim 15, wherein the wireless information device further includes a user interface, the method further comprising:

- receiving a user preference from the user interface before the generating step.

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